Debris Management Plan

For

_____

Date: _____

Prepared by: _____

Approved by: _____

I. Introduction and Purpose

A. To provide policies and guidance to the agencies of _____County\City for the removal and disposition of debris caused by an event and/or a major disaster.

B. To facilitate and coordinate the management of debris following a disaster in order to mitigate against any potential threat to the health, safety, and welfare of the impacted citizens, expedite recovery efforts in the impacted area, and address any threat of significant damage to improved public or private property.

II. Staff Roles and Responsibilities

A. Staffing Resources: In a major or catastrophic disaster, our government may experience difficulty in locating staff, equipment, and funds to devote to disaster debris management. The following positions represent potential staffing assets suitable for assignment to our debris management team. (Note – delete or add positions to represent your available assets)

1. Mayor or Chairman of the Board of County Commissioners
2. City Manager or County Manger
3. Director of Public Works or County Road Superintendent & Staff
4. Emergency Manager & Staff
5. Superintendent of Parks and Recreation & Staff
6. Superintendent of Solid Waste Department & Staff
7. City or County Purchasing Director & Staff
8. Director of Utilities Department & Staff
9. Director of Public Health Department & Staff
10. Director of Finance Department & Staff

11. City or County Engineer

B. Key Staffing Requirements – Roles & Responsibilities

1. Debris Manager (Incident Commander)

Develops incident objectives and approves resources (task orders) during the response phase. The role of the DM may be as more of a support agency during the phase. Key tasks include:

- Provide overall incident objectives and strategy.
- Establish procedures for incident resource ordering.
- Establish procedures for resource activation, mobilization, deployment and employment.
- Approve completed task orders.
- Provide overall project management.
- Assist in developing safe tactics.

2. Deputy Debris Manager

The Deputy DM acts an extension of the DM in the event that the DM is unavailable. The Deputy DM may be called upon to advise the DM on various FEMA reimbursement issues, eligibility issues or attend FEMA debris meetings on the DM's behalf. The Deputy DM may be identified within SPU or retained through a contract with an individual or firm.

3. Planning

The Planning Section Chief acts as the mechanism for tracking resources and identifies resource shortages during the response phase. This includes the following tasks:

- Conduct Planning Meetings with internal staff and FEMA Public Assistance Officer (PAO).
- Coordinate preparation and documentation.
- Conduct detailed damage assessments.
- Identify debris project tasks
- Assist procurement/legal with scope of work development if necessary

4. Finance/Administration

The Finance/Administration section of the team pays for the resources and reports the costs. These tasks may include:

- Provide cost estimates.
- Ensure that the task orders are within the financial limits
- Attend contractor pre-planning meetings.
- Track costs.

5. Operations

The Operations Section Chief works to identify, assign, and supervise the resources needed to accomplish the debris mission. During the response period of the incident, the Operations Section Chief's tasks include:

- Assist in identifying operational strategies.
- Determine tasks necessary to achieve mission success.
- Determine work assignments and resource requirements.
- Provide project management.

6. Legal

The Legal Team provides legal sufficiency review of all contracts and agreements associated with the debris mission.

C. Emergency Communications Plan: Communications is advance of and immediately following the disaster will comply with preexisting telephone "Call Out" notification procedures established for each office and department within our government.

D. Health and Safety Plan & Procedures: The health and safety of our citizens, the disaster response team, and the debris management team are of paramount importance. Managing the safe execution of the debris management mission is a responsibility of all involved. Contractors will be required to prepare Safety Management Plans for the protection of all persons and property.

E. Training Schedule: Training should be completed in a non disaster environment to facilitate a more effective and efficient response. The following courses are recommended for all team members associated with our Disaster Debris Response Team:

FEMA G-202 course on Debris Management
ICS-100 through ICS-400
EMI FEMA Independent Study 632.

III. Situation and Assumptions

A. Disaster Event: The amount of debris that is generated by an event can be estimated by several methods. One method is to accomplish a drive-through "windshield" damage assessment and estimate the amount of debris visually with the drive through. Another method that can be used is an aerial assessment by flying over the area using _____ State Police (__SP) and/or _____ National Guard (__NG) helicopters and Civil Air Patrol (CAP) reconnaissance flights. The damaged area can be assessed either visually or using aerial photography. Once the area has

been assessed, the amount of debris may be estimated using a modeling methodology that was developed by the US Army Corps of Engineers (USACE) Emergency Management staff using actual data from Hurricanes Frederick, Hugo, and Andrew.

B. Debris: The debris may be equally heavy in both urban and rural areas depending on the magnitude of the tree blow-down and associated structural damage such as homes, businesses, utilities, signs, etc. Debris removal, regardless of source, becomes a high priority following a disaster as it is a visible sign of action and helps to restore a sense of normalcy to a shocked and stunned population. Removal often represents the first visible step towards recovery. In developing a management strategy for our debris removal operation, the operation should be divided into two phases. **Phase I** consists of the clearance of the debris that hinders immediate life saving actions being taken within the disaster area and the clearance of that debris which poses an immediate threat to public health and safety. **Phase II** operations consist of the removal and disposal of that debris which is determined necessary to ensure the orderly recovery of the community and to eliminate less immediate threats to health and safety.

IV. Debris Collection Plan

A. Priorities:

1. Emergency Roadway Debris Removal (Phase I Response Operations).

a) There is an immediate need to open emergency access routes into devastated areas following any type of major natural disaster. ___DOT and local governments must identify routes within their jurisdiction that are essential to emergency operations.

b) Roadway debris removal involves the opening up of arterial roads and collector streets by moving debris to the shoulders of the road. There is no attempt to physically remove or dispose of the debris, only to clear key access routes to expedite:

- Movement of emergency vehicles.
- Law enforcement.
- Resumption of critical services.

- Assessment of damage to key public facilities and utilities such as schools, hospitals, government buildings, municipal owned utilities.

b) The requirement for government services will be increased drastically following a major natural disaster. Therefore, after emergency access has been provided to hospitals, police, and fire stations, the next priority is to open access to other critical community facilities such as municipal buildings, water treatment plants, wastewater treatment plants, power generation units and airports.

c) Damaged utility systems, structurally unstable buildings and other heavily damaged public facilities must be expeditiously repaired, deactivated, barricaded, or removed. Activities involving these facilities should be closely coordinated with their owners and/or operators. Demolition of unsafe structures, which constitute a public health and safety threat in most situations, may be deferred if access to the area can be controlled.

d) Emergency management and road / street personnel should be aware of local, State and Federal capabilities to provide service for emergency roadway debris removal. Available resources include:

- Municipal workers and equipment
- Local and State DOT workers and equipment
- National Guard
- Local contractors hired by local and/or State governments
- US Department of Agriculture (USDA) Forest Service chain saw crews
- Local US Army Corps of Engineers (USACE) workers and equipment
- Department of Defense (DOD)
- Regional contractors hired by the Federal Emergency Management Agency (FEMA) or the USACE

2. Public Right-of-Way Debris Removal (Phase II Recovery Operations).

a) As the major storm event approaches the City / County, Department of Public Works will be in contact with the contractor firm holding the executed and in-place Disaster Debris Removal, Reduction, Recycling and Disposal

Contract to advise them of impending conditions. This contract is designed to remove and lawfully dispose of all natural disaster generated debris, and hazardous materials. Debris removal will be limited to City / County streets, roads and other rights-of-way, all municipal and public school properties, and any other municipal facility or site as may be directed, and includes all private residence and property debris brought to the edge of the right-of-way by citizens.

b) Debris is simply pushed to the shoulders of the roadway during the emergency opening (Phase I) of key routes. There is little time or concern for sorting debris at that time. The objective is to provide for the safe movement of emergency and support vehicles into and out of the disaster area. As removal operations progress, the initial road side piles of debris become the dumping location for additional yard waste and other storm generated debris such as construction material, personal property, trash, white goods (refrigerators, washers, dryers, hot water heaters, etc.), roofing, and even household, commercial, and agricultural chemicals. Obtaining good estimates of debris volumes facilitate efficient debris removal, reduction and disposal work during this phase of operations.

c) Expedient removal of debris from in front of residents' homes should become a priority since it is a positive sign that restoration actions are underway and may help counteract depression and helplessness of the affected residents. The removal operations will also assist in expediting the replacement of key utilities located along public rights-of-way.

d) Specific actions may include:

- Assigning our staff to debris hauling assistance
- Activating debris removal contracts
- Debris collection and removal
- Opening of TDSRS locations
- Establishing residential debris drop sites
- Communicating curbside sorting instructions to the citizens

d) The general concept of disaster debris removal operations developed by the City / County includes multiple, scheduled passes of each site, location or right-of-way. This manner of debris removal allows citizens the opportunity to return to their properties and subsequently bring all debris to

the edge of the right-of-way for City / County contractor removal, as property restoration progresses.

3. Pre-Positioned Debris Monitoring Firm and / or Force Account Monitoring

a) The debris monitoring is a third-party, objective, oversight agency acting as an extension of our staff to ensure that debris removal, reduction, and disposal activities are conducted in a manner consistent with FEMA rules and regulations. The monitoring firm will only be engaged upon activation of our contracted debris hauling firm.

b) The monitoring firm will orient employees with operational procedures and refresh staff with a field training program on current debris removal eligibility, FEMA eligibility requirements, debris removal contract requirements, and safety procedures. Collection monitors must carefully document debris collection information to demonstrate eligibility and ensure proper debris hauling contractor payments and FEMA reimbursement. The debris monitoring firm may be responsible for the following activities:

- Issuing load tickets;
- Verifying the amount of debris hauled to the TDSRS
- Identifying HHW on the ROW and at TDSRS locations and ensuring that it is properly segregated, and disposed of at a licensed facility
- Managing an extensive database for reimbursement, invoice reconciliation and auditing purposes
- Reviewing and reconciling contractor invoices prior to recommending payments to the City / County.

V. Debris Management Sites

A. Site Planning & Establishment

1. The City / County has pre-designated ____sites totaling ___ acres for the sole purpose of the temporary storage and reduction of clean woody debris These sites are known as Temporary Debris Storage and Reduction (TDSR) sites. No other debris operations are authorized on these sites.

2. As these sites were identified and investigated for disaster debris operational use, block diagrams of expected use

configuration were prepared. These plans, along with the overall debris management program, were presented to and reviewed by the _____ Department of Environmental Quality. As a result of this advance coordination, all of the environmental concerns were identified and addressed and permit requirements established. This will ensure continuous operation, without interruption, upon site activation. Established baseline and closure environmental testing requirements and a general operation plan have been prepared and are part of our pre-positioned debris management contract.

B. Site Operations

1. Any hazardous and industrial materials encountered by the debris removal contractor are to be set aside at the point of collection for removal and disposal by the specialized debris crews. Any hazardous and industrial material arriving at the TDSR site(s) should be contained in the specially designed lined area until removed for disposal at the appropriate facility.

2. Site preparation activities include:
   - Developing a site management plan following FEMA Publication 325
   - Maintaining flag-persons and traffic control signage as needed to ensure safe traffic flow
   - Ensuring that the contractor's site health and safety plan is followed
   - Providing portable toilets (male and female)
   - Providing an all weather inspection tower
   - Providing dust suppression equipment

3. Debris Reduction options include:
   - Air curtain Incineration of clean vegetative debris
   - Open Burning or clean vegetative debris
   - Grinding vegetative and C&D debris

4. Recycling: Recycling reduces mixed debris volume before it is hauled to a landfill. Recycling is attractive and strongly supported by _____ since there may be an economic value to the recovered material if it can be sorted and sold. A portable Materials Recovery Facility (MRF) should be set up at the site. Metals, weed and soils are prime candidates for recycling. The major drawback is the potential environmental impact of the recycling operation.

5. Environmental Considerations: Stockpiled debris will be a mix of woody vegetation, construction material, household items, and yard

waste. HHW and medical wastes should be segregated and removed prior to stockpiling. Activities at the debris disposal sites will include some, or a combination of the following activities: stockpiling, sorting, recycling, burning, grinding, and chipping. Burning is done in pits fed by an air curtain and generally only woody debris is burned; however, the efficiency of the burn and the quality of burn material is highly variable. Contamination may occur from petroleum spills at staging and reduction sites or runoff from the debris piles, burn sites, and ash piles.

6. Site Closeout: Each temporary debris staging and reduction site will eventually be emptied of all material and be restored to its previous condition and use. Contractors would be required to remove and dispose of all mixed debris, construction and demolition (C&D) debris, and debris residue to approved landfills. Quality Assurance (QA) inspectors should monitor all closeout and disposal activities to ensure that contractors complied with contract specifications. The basic close-out steps required are: remove all debris from the site; conduct an environmental audit/assessment, develop a remediation/restoration plan, approved by the appropriate environmental agency; execute the plan; get acceptance from the landowner; and terminate lease payments, if applicable. .

VI. Contracting Considerations:

A. The City / County will implement their Emergency Contracting / Procurement Procedures to facilitate faster delivery of necessary goods and services to the disaster response.

C. Debris management requirements not covered by our pre positioned debris removal contract, debris monitoring contract, and hazardous waste disposal contract will be accomplished using force account labor or procured using Emergency Contracting Procurement Procedures.

D. General Contract Provisions and contract format for any new procurement action will comply with the guidelines and recommendations as published in Chapter 2 of FEMA 325, Public Assistance Debris Management Guide.

E. Qualifications Requirements will be used to pre qualify apparent successful contractors prior to any contract award.

F. Solicitation of Contractors will be accomplished in a full, fair and open competition as discussed in Chapter 2 of FEMA 325, Public Assistance Debris Management Guide.

VII. Private Property Demolition and Debris Removal

A. Condemnation: To avoid significant building demolition problem we anticipate having ordinances in effect to handle emergency condemnation procedures. Due diligence is needed to prevent structures from being misidentified or have people or belongings in them when the demolition crews arrive. Buildings may be occupied by drug users or homeless people who will necessitate removal by our local law enforcement officials. Close coordination is essential and it is recommended that at least one FEMA staff person be on site to work directly with our staff to ensure that all required legal actions are taken.

B. Mobile Home Park procedures: A catastrophic disaster may require temporary housing that cannot be provided by our local or State agencies. If Direct Federal Assistance is requested and approved, FEMA may provide mobile homes on a temporary basis under the Individual Assistance (IA) Program. FEMA's IA managers must obtain suitable locations to place FEMA mobile homes to provide temporary shelter expeditiously. Local mobile home parks will be surveyed and arrangements made with park owners for FEMA to clear the parks of debris in return for the park to lease pads for FEMA mobile homes. The local emergency manager will need to closely coordinate with his/her counterpart in the FEMA IA office to assist in possible clean-up activities and to enforce condemnation procedures. The debris removal mission must strive to retain the existing undamaged utility hookups. Legal aspects as well as health and safety concerns will have an important impact on the debris removal activities.

C. Navigation Hazard Removal procedures: The emergency manager will need to coordinate with the USACE, the U.S. Coast Guard, State Marine Patrol, local government agencies, legal counsel, contractors specialized in marine salvage operations, commercial divers, and certified surveyors to ensure that navigation hazards are removed by the appropriate agency safely and efficiently.

VIII. Public Information Plan

A. Public Information Officer: Our public information strategy will assign the following tasks to a key management member of our Debris Team:

- Prepare information to be distributed
- Process to distribute the information
- Process to update, correct, revise, and redistribute information as operations progress
- Establish a debris information center (toll free hot line) or a venue to address all concerns, questions, and complaints

B. Pre-scripted Information: The debris mission information should include the parameters, rules, and guidelines of debris operations so residents can begin their personal recovery activities. The staff responsible for developing and writing the information will present the information in a clear, direct, and organized manner. The language used must be simple and easy for all residents to understand. Information may have to be distributed In more than one language for it to be understood by non-English-speaking populations and neighborhoods.

C. Distribution Plan: The public information strategy is to disseminate the prepare information to the general public. This can be accomplished in a number of ways:

- Media – Local television, radio, newspapers, or community newsletters.
- Internet Site – Applicant website and debris information flyers for printing
- Public Forums – Interactive meetings at town hall or shopping mall kiosks
- Direct Mail Products – Door hangers, direct mail, fact sheets, flyers within billings, and billboards.

The public information staff will take advantage of every information vehicle available if power, utilities, and other infrastructure have been damaged. Many times the best carriers of information are the responders in the field. The general public recognizes their role and frequently asks questions regarding the operations. Stocking the equipment and trucks

with flyers, pamphlets, and other print media allows responders to perform their duties while also satisfying the public's need for information.

IX. Appendices

A. Maps of Jurisdiction and Priority Clearance areas
(to be inserted by user)

B. Staffing Assignment Maps
(to be inserted by user)

C. List of Pre Qualified Contractors
(to be inserted by user)

D. Load Ticket

E. Debris Monitor Reports

F. Truck Certification List

Appendix D - Load Ticket

Load Ticket	Ticket No. 0012345
Municipality (Applicant)	Prime Contractor
	Sub-Contractor

Truck Information

Truck No	Capacity
Truck Driver (print legibly)	

Loading Information

Loading	Time	Date	Inspector/Monitor

Location (Address or Cross Streets)

When Using GPS Coordinates use Decimal Degrees (N xx.xxxxx)

N	**W**

Unloading Information

Debris Classification	Estimated %, CYs, or Actual Weight
☐ Vegetation ☐ C&D ☐ White Goods ☐ HHW ☐ Other* See Below	

Unloading	Time	Date	Inspector/Monitor

DMS Name and Location

*Other Debris Explanation	Original: Applicant Copy 1: _____ Copy 2: _____ Copy 3: _____

Appendix E - Debris Monitor Reports

MONITOR DAILY ACTIVITY REPORT

Name:_____

Activity _____ Date_____

FEMA - 0000 - DR - 00

Location Covered by this report _____

Weather Conditions _____

Summary of Daily Activities

Safety Comments:

Appendix F - Truck Certification List

TRUCK CERTIFICATION FORM

DUMP TRUCK

Measurements

Truck Measurements — Length (L) = ____ Width (W) ft = ____ Height (H) ft = ____

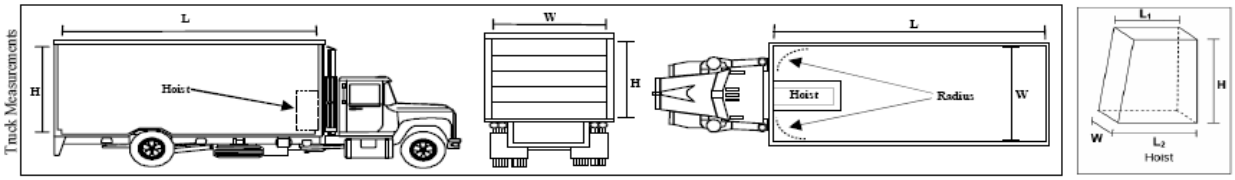
Hoist Measurement — Length$_1$ (L_1) ft = ____ Length$_2$ (L_2) ft = ____ WidthH (W_H) ft = ____ Height$_H$ (H_H) ft = ____

Radius — Radius ft = ____ Height (H) = ____

Calculations

Bed Volume (Basic)	(LxWxH)/27 =	+	cyd
Hoist Volume	((L1+L2/2) x W_H x H_H)/27 =	-	cyd
Radius Volume	(3.14xR^2xH)/27 =	-	cyd
	Total =		cyd

Cubic Yards



EXTRA TRAILER

Measurements

Truck Measurements (Basic) — Length (L) = ____ Width (W) ft = ____ Height (H) ft = ____

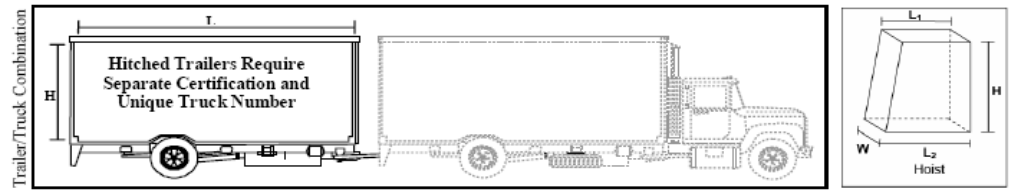
Hoist Measurement — Length$_1$ (L_1) ft = ____ Length$_2$ (L_2) ft = ____ WidthH (W_H) ft = ____ Height$_H$ (H_H) ft = ____

Radius — Radius ft = ____ Height (H) = ____

Calculations

Bed Volume (Basic)	(LxWxH)/27 =	+	cyd
Hoist Volume	((L_1+L_2/2) x W_H x H_H) =	-	cyd
Radius Volume	(3.14xR^2xH)/27 =	-	cyd
	Total =		cyd

Cubic Yards



ROUND BOTTOM TRUCK

Measurements

Truck Measurements — Length (L) ft = ____ Diameter (D) ft = ____

Calculations

Approx. Volume (3.14 x (D/2)^2 x L) /27 = ____ cyd (round bottom portion only)

Cubic Yards